

Amendments to the Claims:Claim Listing:

1. Cancelled.
2. Cancelled.
3. Cancelled.
4. (Currently amended) A method for distilling a raw material liquid containing (meth)acrylic acid substantially free from azeotropic solvents, which comprises:
subjecting gas phase catalytic oxidation reaction of propylene and/or acrolein with a molecular oxygen-containing gas or by gas phase catalytic oxidation reaction of at least one selected from the group consisting of isobutylene, t-butyl alcohol and methacrolein with the molecular oxygen-containing gas to form a mixed gas;
feeding the resulting mixed gas to a (meth)acrylic acid collection column wherein materials containing (meth)acrylic acid are collected with a collection agent;
feeding to a distillation column the raw material liquid containing (meth)acrylic acid substantially free from azeotropic solvents which temperature is substantially equal to that of an entrance place in the column; and
distilling the raw material liquid in the distillation column~~according to claim 1,~~
wherein a temperature of the raw material liquid is adjusted by heating or cooling.
5. (currently amended) A method for distilling a raw material liquid containing (meth)acrylic acid substantially free from azeotropic solvents, which comprises:
subjecting gas phase catalytic oxidation reaction of propylene and/or acrolein with a molecular oxygen-containing gas or by gas phase catalytic oxidation reaction of at least one selected from the group consisting of isobutylene, t-butyl alcohol and methacrolein with the molecular oxygen-containing gas to form a mixed gas;
feeding the resulting mixed gas to a (meth)acrylic acid collection column wherein materials containing (meth)acrylic acid are collected with a collection agent;

feeding to a distillation column the raw material liquid containing (meth)acrylic acid substantially free from azeotropic solvents which temperature is substantially equal to that of an entrance place in the column; and

distilling the raw material liquid in the distillation column~~according to claim 1,~~

wherein a temperature of the raw material liquid to be fed (T0) and a temperature of the entrance place in the distillation column (T1) fulfill the following formula (1a):

$$0^{\circ}\text{C} \leq |T_0 - T_1| \leq 30^{\circ}\text{C} \quad (1a).$$

6. (currently amended) A method according to claim ~~1~~ 5, wherein a ~~the~~ the temperature of the raw material liquid to be fed (T0) and a ~~the~~ the temperature of the entrance place in the distillation column (T1) fulfill the following formula (1b):

$$0^{\circ}\text{C} \leq |T_0 - T_1| \leq 20^{\circ}\text{C} \quad (1b).$$

7. (currently amended) A method according to claim ~~1~~ 5, wherein a ~~the~~ the temperature of the raw material liquid to be fed (T0) and a ~~the~~ the temperature of the entrance place in the distillation column (T1) fulfill the following formula (1c):

$$0^{\circ}\text{C} \leq |T_0 - T_1| \leq 10^{\circ}\text{C} \quad (1c).$$

8. (currently amended) A method for distilling a raw material liquid containing (meth)acrylic acid substantially free from azeotropic solvents, which comprises;

subjecting gas phase catalytic oxidation reaction of propylene and/or acrolein with a molecular oxygen-containing gas or by gas phase catalytic oxidation reaction of at least one selected from the group consisting of isobutylene, t-butyl alcohol and methacrolein with the molecular oxygen-containing gas to form a mixed gas;

feeding the resulting mixed gas to a (meth)acrylic acid collection column wherein materials containing (meth)acrylic acid are collected with a collection agent;

feeding to a distillation column the raw material liquid containing (meth)acrylic acid substantially free from azeotropic solvents which temperature is substantially equal to that of an entrance place in the column; and

distilling the raw material liquid in the distillation column~~according to claim 1,~~ wherein a fluctuation range (ΔT_0) of temperature (T0) of the raw material liquid is within 10°C .

9. (original) A method according to claim 1, wherein a fluctuation range (ΔT_0) of temperature (T_0) of the raw material liquid is within 5° C.

10. (currently amended) A method according to claim ~~1~~8, wherein ~~a~~the fluctuation range (ΔT_0) of temperature (T_0) of the raw material liquid is within 3° C.

11. (original) A method according to claim 4, wherein the heating or cooling is performed by a heat exchanger.

12. (original) A method according to claim 4, wherein the heating or cooling is performed based on the result that a temperature of the entrance place in the column is measured.

13. (currently amended) A method according to claim ~~4~~5, wherein ~~a~~the temperature of the raw material liquid to be fed to the column is lower than that of a bottom part in the column.

14. (currently amended) A method according to claim ~~1~~5, wherein the raw material liquid is divided into two or more separate streams, and then fed to the distillation column.

15. (currently amended) A method according to claim ~~1~~5, wherein the collection agent is water or a process wastewater.

16. (previously amended) A method according to claim 1, wherein the raw material liquid is distilled employing an azeotropic solvent to separate the collection agent therefrom.

17. (original) A method according to claim 16, wherein the azeotropic solvent is at least one selected from the group consisting of diethyl ketone, methyl propyl ketone, methyl isobutyl ketone, methyl-t-butyl ketone, n-propyl acetate, toluene, heptane, and methylcyclohexane.

18. (currently amended) A method according to claim ~~1~~5, wherein the distillation column is maintained under the following conditions:

Operation pressure: 10 to 400 hPa

Top temperature of the column: 45° C to 110° C

Temperature at which the raw material liquid is fed to the entrance place in the column: 40° C to 120° C

Bottom temperature: 50° C to 190° C

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Reflux ratio: 0.1 to 5.